

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
Use of Spectrum Bands Above 24 GHz For	)	GN Docket No. 14-177
Mobile Radio Services	)	
	)	
Establishing a More Flexible Framework to	)	IB Docket No. 15-256
Facilitate Satellite Operations in the 27.5-28.35	)	
GHz and 37.5-40 GHz Bands	)	
	)	
Petition for Rulemaking of the Fixed Wireless	)	RM-11664
Communications Coalition to Create Service	)	
Rules for the 42-43.5 GHz Band	)	
	)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90,	)	WT Docket No. 10-112
95, and 101 To Establish Uniform License	)	
Renewal, Discontinuance of Operation, and	)	
Geographic Partitioning and Spectrum	)	
Disaggregation Rules and Policies for Certain	)	
Wireless Radio Services	)	
	)	
Allocation and Designation of Spectrum for	)	IB Docket No. 97-95
Fixed-Satellite Services in the 37.5-38.5 GHz,	)	
40.5-41.5 GHz and 48.2-50.2 GHz Frequency	)	
Bands; Allocation of Spectrum to Upgrade	)	
Fixed and Mobile Allocations in the 40.5-42.5	)	
GHz Frequency Band; Allocation of Spectrum	)	
in the 46.9-47.0 GHz Frequency Band for	)	
Wireless Services; and Allocation of Spectrum	)	
in the 37.0-38.0 GHz and 40.0-40.5 GHz for	)	
Government Operations	)	

**REPLY COMMENTS OF COMPETITIVE CARRIERS ASSOCIATION**

Steven K. Berry  
Rebecca Murphy Thompson  
COMPETITIVE CARRIERS ASSOCIATION  
805 15<sup>th</sup> Street NW, Suite 401  
Washington, DC 20005

February 26, 2016

## TABLE OF CONTENTS

<b>I.</b>	<b>INTRODUCTION AND SUMMARY .....</b>	<b>2</b>
<b>II.</b>	<b>CCA SUPPORTS COMMISSION EFFORTS TO MAKE ADDITIONAL SPECTRUM – BOTH LICENSED AND UNLICENSED – AVAILABLE FOR MOBILE BROADBAND USE .....</b>	<b>4</b>
<b>III.</b>	<b>CCA SUPPORTS FLEXIBLE AND PROSPECTIVE LICENSING AND PROCEDURAL RULES.....</b>	<b>7</b>
A.	A Ten-Year License Period With Expectancy for Renewal Will Promote Investment and Growth.....	8
B.	CCA Supports the Adoption of County-Sized License Areas for Mobile Use in the mmW Bands.....	9
C.	Adopting a “Substantial Service” Performance Requirement Strikes An Appropriate Balance Between Providing Licensees With Operational Flexibility And Ensuring That Spectrum Does Not Lie Fallow .....	11
D.	CCA Supports An Interoperability Requirement Across Contiguous Blocks Of Spectrum .....	12
E.	The mmW Spectrum Bands Should Be Included In The Spectrum Screen On a Per-Band Basis Once Deemed Suitable And Available .....	13
F.	The FCC Should Allocate as Much Spectrum as is Currently Viable to Spur Network Deployment and Spectrum Use. ....	14
<b>IV.</b>	<b>THE “SPECTRUM CRUNCH” AND CONSOLIDATING MOBILE LANDSCAPE HAS INCREASED THE NEED FOR ADDITIONAL SPECTRUM TO BE MADE AVAILABLE FOR MOBILE BROADBAND USE .....</b>	<b>15</b>
<b>V.</b>	<b>CONCLUSION .....</b>	<b>19</b>

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
Use of Spectrum Bands Above 24 GHz For	)	GN Docket No. 14-177
Mobile Radio Services	)	
	)	
Establishing a More Flexible Framework to	)	IB Docket No. 15-256
Facilitate Satellite Operations in the 27.5-28.35	)	
GHz and 37.5-40 GHz Bands	)	
	)	
Petition for Rulemaking of the Fixed Wireless	)	RM-11664
Communications Coalition to Create Service	)	
Rules for the 42-43.5 GHz Band	)	
	)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90,	)	WT Docket No. 10-112
95, and 101 To Establish Uniform License	)	
Renewal, Discontinuance of Operation, and	)	
Geographic Partitioning and Spectrum	)	
Disaggregation Rules and Policies for Certain	)	
Wireless Radio Services	)	
	)	
Allocation and Designation of Spectrum for	)	IB Docket No. 97-95
Fixed-Satellite Services in the 37.5-38.5 GHz,	)	
40.5-41.5 GHz and 48.2-50.2 GHz Frequency	)	
Bands; Allocation of Spectrum to Upgrade	)	
Fixed and Mobile Allocations in the 40.5-42.5	)	
GHz Frequency Band; Allocation of Spectrum	)	
in the 46.9-47.0 GHz Frequency Band for	)	
Wireless Services; and Allocation of Spectrum	)	
in the 37.0-38.0 GHz and 40.0-40.5 GHz for	)	
Government Operations	)	

**REPLY COMMENTS OF COMPETITIVE CARRIERS ASSOCIATION**

Competitive Carriers Association (“CCA”) hereby replies to comments in response to the *Notice of Proposed Rulemaking* (“NPRM”)<sup>1</sup> in the above-captioned proceedings, in which the Federal Communications Commission (“FCC” or “Commission”) seeks comment on proposed

---

<sup>1</sup> Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, GN Docket No. 14-177, et al., *Notice of Proposed Rulemaking*, 30 FCC Rcd 11878 (2015) (“NPRM”).

service rules that would authorize mobile operations in certain spectrum bands above 24 GHz. CCA supports the Commission's efforts to clear spectrum for mobile broadband services and emphasizes that flexible and forward-looking licensing and procedural rules should be embraced by the Commission to better ensure a competitive marketplace for the provision of fifth generation ("5G") services across both urban and rural landscapes.

## **I. INTRODUCTION AND SUMMARY**

CCA is the nation's leading association for competitive wireless providers and stakeholders across the United States. CCA's membership includes nearly 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 customers to regional and national providers serving millions of customers. CCA also represents approximately 200 associate members including vendors and suppliers that provide products and services throughout the mobile communications supply chain. The NPRM covers important subject areas for all of CCA's members – mobile service providers that are interested in new spectrum opportunities, and vendors and suppliers that will assist with the innovative development and deployment of new technologies.

The record in this proceeding offers a consistent theme: consumers are demanding more data from their service providers than ever before, and these demands are predicted to increase exponentially in the future. 5G technology is the next step to supporting very high capacity networks and to further push the envelope of mobile innovation. High frequency spectrum in the millimeter wave ("mmW") bands, coupled with low-band spectrum, will play a critical role in 5G technology development and network deployment and offers a promise of new opportunities to innovate and increase competition in the wireless industry. CCA applauds the Commission

for exploring additional spectrum opportunities and for recognizing the potential that the above-24-GHz bands possess with respect to mobile operations.

CCA strongly supports the Commission's efforts to identify and allocate additional spectrum for mobile broadband services, and stresses the importance of making this spectrum available on a fair and equal basis to competitive carriers. CCA agrees that the following potential mmW frequencies identified by the Commission may be suitable for 5G mobile broadband services: portions of the Local Multipoint Distribution Service (LMDS) band (specifically, 27.5-28.35 GHz, which will be referred to as the "28 GHz band" for purposes of these comments); the 38.6-40 GHz band ("39 GHz band"); the 37-38.6 GHz band ("37 GHz band"); and the 64-71 GHz band (collectively referred to as the "mmW bands"). CCA also concurs that operations in the 64-71 GHz band should be authorized under the Part 15 rules due to the importance of making spectrum available for unlicensed operations, while the rest of the bands should be offered for licensed services.

Accordingly, the Commission should adopt flexible and prospective licensing and procedural rules to ensure that competitive carriers have a fair chance to participate in the 5G revolution. Such policies should include: (a) longer license periods, such as ten years, for mobile licenses in the 28, 37, and 39 GHz bands with expectancy for renewal; (b) adoption of smaller geographic license areas, such as counties or PEAs, for mobile licenses in the mmW bands; (c) incorporation of flexible performance and construction requirements; (d) interoperability for devices operating within each mmW band; and (e) inclusion of the mmW bands in the spectrum screen on a by-band basis when considered suitable and available. The Commission should also consider auctioning this viable spectrum at the time it becomes available, to more efficiently allocate spectrum and spur investment in network deployments.

CCA also joins other commenters that stress the importance of a diverse spectrum toolkit in order to make 5G technology a reality. Nevertheless, the Commission must not lose sight of the importance of other types of spectrum, such as low-band spectrum that will also be part of the evolution to 5G. Low-band spectrum is an essential ingredient that, when coupled with high frequency spectrum, can help foster a smooth migration from 4G to 5G technologies. Low-band spectrum is critical for coverage, and the Commission must continue to enforce its competitive standards to ensure that competitive carriers have fair opportunities to acquire this critical resource.

## **II. CCA SUPPORTS COMMISSION EFFORTS TO MAKE ADDITIONAL SPECTRUM – BOTH LICENSED AND UNLICENSED – AVAILABLE FOR MOBILE BROADBAND USE**

The NPRM identifies the following four specific mmW spectrum bands above 24 GHz that appear to be suitable for mobile operations (including for 5G mobile services): 28 GHz band; 39 GHz band; 37 GHz band; and the 64-71 GHz band.<sup>2</sup> The Commission also asks whether such spectrum should be made available licensed and/or unlicensed.

CCA generally supports the Commission's plan to allocate the identified bands for mobile use<sup>3</sup> and agrees that this spectrum may help increase capacity to promote the deployment of 5G technology. CCA, like many commenters in this proceeding, emphasizes the importance of clearing low-band spectrum, which will complement any spectrum made available above 24

---

<sup>2</sup> *Id.* ¶ 15.

<sup>3</sup> CCA also agrees that the Commission should authorize the existing 28 and 39 GHz licenses for mobile use and protect mobile services in these band from interference. Once the Commission adopts a regulatory approach to the mmW bands, interference issues should be further explored and developed by the Commission, stakeholders and standard-setting bodies.

GHz.<sup>4</sup> To facilitate the transition from 4G LTE to 5G technology, carriers must continue to rely on their low- and mid- band spectrum holdings, coupled with the mmW bands to account for the increased capacity that will be demanded by 5G technology and to ensure a smooth migration.

To further account for the increased capacity necessary for 5G, CCA agrees that a substantial amount of contiguous bandwidth must be made available to enable data-driven mobile services. Accordingly, CCA supports the Commission’s proposal to allocate the 28, 37, 39 GHz bands and the 64-71 GHz band for mobile operations. Many commenters call for unification of the adjacent 37 GHz and 39 GHz bands to create a large block of contiguous spectrum under a single licensing framework.<sup>5</sup> Allocating 3 gigahertz of spectrum above 24 GHz for mobile operations could be a significant asset to supporting high-data rate transmissions and facilitating 5G deployment. As the record demonstrates, wideband licenses will promote 5G deployment due to the technical requirements and anticipated use of this technology.<sup>6</sup>

In addition, the 37 and 39 GHz bands should fall under a single licensing regime. The record strongly opposes the NPRM’s proposed “hybrid” authorization framework for the 37 GHz band,<sup>7</sup> citing concerns about complications and inefficiency in deploying 5G networks which can undermine investment and devalue the spectrum.<sup>8</sup> CCA shares these concerns and urges the

---

<sup>4</sup> See, e.g., Comments of CTIA, GN Docket No. 14-177, et al. at 7 (filed Jan. 29, 2016) (“CTIA Comments”), Comments of AT&T, GN Docket No. 14-177, et al. at 2-3 (filed Jan. 29, 2016) (“AT&T Comments”).

<sup>5</sup> See, e.g., Comments of T-Mobile, GN Docket No. 14-177, et al. at 12-13, 19-20 (“T-Mobile Comments”); AT&T Comments 15-16; Comments of Verizon Wireless, GN Docket No. 14-177, et al. at 6-8 (filed Jan. 29, 2016) (“Verizon Comments”).

<sup>6</sup> See T-Mobile Comments at 13; AT&T Comments at 9.

<sup>7</sup> NPRM ¶¶ 99-106.

<sup>8</sup> See, e.g., Comments of National Cable and Telecommunications Association, GN Docket No. 14-177, et al. at 14, 16-18 (filed Jan. 29, 2016) (“NCTA Comments”); Comments of High Tech Spectrum Coalition, GN. Docket No. 14-177, et al. at 5 (filed Jan. 29, 2016)

Commission to unify the 37 and 39 GHz bands under a single licensing regime in recognition of the important potential that a unified and large contiguous band of spectrum can offer for the future of 5G deployment.

CCA agrees with commenters that call for channels in this band to be unpaired to allow Time Division Duplexing (“TDD”) technology to be deployed first,<sup>9</sup> but also encourages the Commission to conduct additional technical exploration as the technology matures.<sup>10</sup> These bands should be utilized in the most effective manner possible, and once 5G is better understood and realized, the Commission should allow maximum flexibility so that technologies and services may be appropriately used.

With respect to licensed and unlicensed regulatory approaches to the mmW band, CCA agrees with the Commission’s tentative conclusion to authorize operations in the 64-71 under Part 15 of the FCC rules,<sup>11</sup> while licensing operations in the remaining mmW bands. CCA has long supported exploring novel pathways towards new spectrum opportunities and welcomes the development of unlicensed technologies, such as LTE-Unlicensed (“LTE-U”) and Licensed

---

(“High Tech Spectrum Comments Coalition Comments”); Comments of Intel Corp., GN Docket No. 14-177, et al. at 13-16 (filed Jan. 29, 2016) (“Intel. Corp Comments”); Comments of Ericsson, GN Docket No. 14-177 et al. at 7-8 (filed Jan. 29, 2016) (“Ericsson Comments”); Comments of Mobile Future, GN Docket No. 14-177, et al. at 11-12 (filed Jan. 29, 2016) (“Mobile Future Comments”); Comments of Nokia, GN Docket No. 14-177, et al. at 4 (filed Jan. 29, 2016) (“Nokia Comments”); Comments of Qualcomm Inc., GN Docket No. 14-177, et al. at 8-10 (filed Jan. 29, 2016) (“Qualcomm Comments”); Comments of Telecommunications Industry Association, GN Docket No. 14-177, et al. at 17-18 (filed Jan. 29, 2016) (“TIA Comments”); Verizon Comments 5-6; CTIA Comments 15-16.

<sup>9</sup> See Verizon Comments at 7.

<sup>10</sup> NPRM ¶ 268; *see also* Comments of 4G Americas, GN Docket No. 14-177 et al. at 11-13 (filed Jan. 29, 2016) (“4G Americas Comments”); Intel Corp. Comments at 20; Nokia Comments at 6.

<sup>11</sup> NPRM ¶ 58.



Assisted Access (“LAA”), and their future in the wireless industry. As CCA has advocated, LTE-U and LAA technologies will create additional opportunities for wireless carriers to gain more spectral capacity and the fast, reliable LTE service consumers have come to expect, while still being a good neighbor to other unlicensed operations like Wi-Fi.<sup>12</sup> The Commission should encourage the development of such technologies, both in the mmW bands as well as in other bands suitable for mobile use.

### **III. CCA SUPPORTS FLEXIBLE AND PROSPECTIVE LICENSING AND PROCEDURAL RULES**

CCA agrees that “it is important to establish a flexible regulatory framework that accommodates as wide a variety of services as possible.”<sup>13</sup> The future uses of the mmW bands are unknown and the “appropriate response to the uncertainties is to establish a regulatory framework that maximizes flexibility and enables the widest possible variety of services.”<sup>14</sup> To that end, any adopted rules and regulations should allow smaller and resource-constrained competitive carriers to effectively participate in the marketplace and the opportunity to further innovate, develop, and deploy 5G technology.

The Commission should use this proceeding to promote competition and innovation by enabling protections against potential anti-competitive actions prior to the allocation of spectrum. Although Verizon believes “[i]f any competition issues arise in the future, the Commission and antitrust authorities can address them as the industry develops,”<sup>15</sup> history demonstrates that

---

<sup>12</sup> See Reply Comments of Competitive Carriers Association, ET Docket No. 15-105 (filed June 11, 2015); Reply Comments of Competitive Carriers Association, ET Docket No. 15-105 (filed June 26, 2015).

<sup>13</sup> NPRM ¶ 23.

<sup>14</sup> *Id.* ¶ 24.

<sup>15</sup> Verizon Comments at 15.

marketplace dominance is easily entrenched and difficult to change. AT&T and Verizon originally received a head start on competition in the wireless industry when they were permitted to obtain the majority of suitable and available cellular licenses. AT&T was later essentially provided a “first mover advantage” with respect to the 700 MHz A Block, which was effectively limited to AT&T in an interoperability-free marketplace. Now these two carriers account for approximately two-thirds of connections (over 260 million connections) and control over 70% of the wireless market.<sup>16</sup> Without adopting competitive protections at the outset, the largest two carriers may be allowed to continue down this path again, and effectively drive out competition by acquiring the lion’s share of viable above-24-GHz mobile licenses. At that point, it may be too late to mitigate the anti-competitive effects of their actions. The Commission must not repeat mistakes of the past and should take action now to promote competition.

*A. A Ten-Year License Period with Expectancy for Renewal Will Promote Investment and Growth*

The Commission proposes to adopt a ten-year license term for all licenses in the 28, 37 and 39 GHz bands in order to “maintain consistency” with the existing licenses in these bands.<sup>17</sup> The Commission also seeks comment on whether it should provide a license renewal expectancy if licensees continue to provide at least the level of service required at the end of their initial license terms.<sup>18</sup> Both of these proposals have extensive support in the record, and CCA joins the majority of commenters in supporting ten-year license terms with expectancy of renewal.<sup>19</sup> In

---

<sup>16</sup> *Eighteenth Mobile Competition Report* ¶¶ 15, 21

<sup>17</sup> NPRM ¶¶ 119, 121.

<sup>18</sup> *Id.*

<sup>19</sup> *See, e.g.*, T-Mobile Comments at 10 n. 30; Verizon Comments at 10-12; AT&T Comments at 20; CTIA Comments at 20; Intel Corp Comments at 23-25; Comments of PCIA, GN Docket No. 14-177, et al. at 10-11 (filed Jan. 29, 2016) (“PCIA Comments”);

addition to maintaining consistency, a longer license period with a renewal expectancy allows for the return on investments, and would thus promote deployment of next-generation services on the spectrum.<sup>20</sup>

*B. CCA Supports the Adoption of County-Sized License Areas for Mobile Use in the mmW Bands*

Currently, the licenses in the mmW bands are deployed in basic trading area (“BTA”) or Economic Area (“EA”) sized areas.<sup>21</sup> In the NPRM, the Commission proposes to use counties as the base geographic area unit, which are significantly smaller than BTAs and EAs, but are generally larger than other license areas. The Commission rightly proposes smaller geographic license sizes to facilitate access to spectrum and encourage rapid development and deployment of mobile broadband services.<sup>22</sup> CCA strongly supports the use of smaller geographic license areas such as the proposed county-size, or, in the alternative, Partial Economic Areas (“PEAs”), for mobile licenses in the 28 GHz, 37 GHz and 39 GHz bands.<sup>23</sup> To fully maximize the benefits

---

Mobile Future Comments at 13; Qualcomm Comments at 11; High Tech Spectrum Coalition Comments at 4-5; Nokia Comments at 5; TIA Comments at 24-28.

<sup>20</sup> Commenters argue that the 10-year license term with renewal expectancy will encourage innovation and investment in the spectrum. *See* AT&T Comments at 20; Verizon Comments at 10.

<sup>21</sup> NPRM ¶¶ 25, 35.

<sup>22</sup> *Id.* ¶¶ 109 -10. *See, e.g.,* T-Mobile Comments at 9 (noting that initially, providers may not need large geographic areas, and county-sized areas may be more appropriate).

<sup>23</sup> Smaller geographic license areas are important to competitive carriers for manifold reasons, many of which correspond with the statutory goals outlined in the NPRM. Adopting smaller license areas will make it easier for all providers to access spectrum, including those in rural and tribal lands, and will promote “investment in and rapid deployment of new technologies and services consistent with [the FCC’s] obligations under Section 309(j) of the Communications Act.” NPRM ¶ 109. In the event that the Commission declines to use counties as the base geographic area unit, CCA requests consideration of geographic licenses based on PEAs. Though PEAs are larger than our preferred unit of counties, the use of PEAs would not disadvantage small carriers to the same extent as BTAs and EAs.

of smaller geographic areas, the Commission should adopt its proposal to permit geographic partitioning and spectrum disaggregation.<sup>24</sup>

Many smaller carriers are rural or regional carriers with a limited geographic footprint, and oftentimes, are the only reliable service provider for those subscribers. Smaller geographic license areas allow these small, rural and regional carriers a fair opportunity to bid on and win spectrum at auction that matches their existing territories. These carriers, although resource-constrained, may then effectively develop and deploy networks in their desired geographic license territory. Larger license areas are more difficult for smaller carriers to invest in and deploy on, which weakens smaller carriers' ability to effectively compete with other carriers that have substantial resources to acquire and develop larger licenses. Larger carriers may also benefit from smaller license sizes through partitioning and aggregation policies, as these carriers have the resources to easily aggregate a number of smaller license areas to deploy their networks. In addition, carriers of both sizes will benefit from smaller license sizes that allow them to “target their deployments to those areas where they need the capacity,” which may be based on market forces and consumer demand.<sup>25</sup> Accordingly, coupled with the adoption of partitioning and aggregation rules, smaller license areas have been proven to work for carriers of all sizes and meet the Commission's statutory goals under the Communications Act.

CCA devoted significant efforts to design and propose the use of smaller licenses sizes, specifically PEAs, as a compromise solution in the 600 MHz incentive auction. The Commission adopted this approach in the *Incentive Auction Report and Order* and should

---

<sup>24</sup> NPRM ¶ 232.

<sup>25</sup> *Id.* ¶ 111.

continue to leverage this work in other spectrum initiatives.<sup>26</sup> As the Commission recognized, doing so “permit[s] entry by providers that contemplate offering wireless broadband service on a localized basis, yet may be easily aggregated by carriers that plan to provide service on a larger geographic scale.”<sup>27</sup> This reasoning applies equally to the spectrum above 24 GHz.

*C. Adopting a “Substantial Service” Performance Requirement Strikes an Appropriate Balance Between Providing Licensees with Operational Flexibility and Ensuring That Spectrum Does Not Lie Fallow*

In the NPRM, the Commission seeks comment on the appropriate performance requirements for mobile licenses in the mmW bands.<sup>28</sup> The majority of commenters support a flexible “substantial service” performance requirement for mobile licenses in the 28 GHz, 39 GHz and the 37 GHz bands.<sup>29</sup> CCA agrees that a substantial service requirement would strike an appropriate balance between providing licensees with operational flexibility to make business decisions based on what is best for consumers and network deployment, rather than to satisfy an arbitrary FCC requirement, while also ensuring that the spectrum does not lie fallow.

CCA joins the majority of the record in opposing adoption of a “use it or share it” model, as proposed in the NPRM.<sup>30</sup> While CCA supports the Commission’s mission to discourage warehousing and other improper behavior, it does not agree that a “use it or share it” approach is the appropriate vehicle to meet these goals in the mmW bands. Permitting untested sharing in these bands, especially at such an initial stage, could potentially hamper or otherwise delay 5G

---

<sup>26</sup> See Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268, *Report and Order*, 29 FCC Rcd 6567, ¶ 44 (2014) (“*Incentive Auction Report and Order*”).

<sup>27</sup> *Id.* ¶ 18.

<sup>28</sup> See generally NPRM ¶¶ 193-224.

<sup>29</sup> AT&T Comments at 22; Verizon Comments at 18-19; CTIA Comments at 24-26.

<sup>30</sup> NPRM ¶¶ 215-17.

deployment. Further, it would be premature to apply such a harsh penalty while operators are focusing on deploying new technology and continuously working on innovating and developing 5G services.

For these same reasons, CCA also supports adoption of construction requirements that are flexible enough to allow for continued innovation and development, but also include a prospective element that will allow the Commission to impose more specific requirements when technologies mature. Once technologies mature, and the Commission has a better understanding of their inner workings, more specific requirements should be considered, if necessary.

*D. CCA Supports an Interoperability Requirement Across Contiguous Blocks of Spectrum*

In the NPRM, the Commission proposes to require that mobile equipment operating within each mmW band be interoperable using all interfaces that the equipment utilizes on the frequencies.<sup>31</sup> The Commission argues that doing so would help “ensure a robust market for equipment, and helps ensure that such equipment is available equally to all licensees.”<sup>32</sup> As noted above, CCA agrees that interoperability is a critical aspect in supporting new technologies and supports this proposal with respect to the 28 GHz band, and the 37 and 39 GHz bands.<sup>33</sup>

Interoperability is important for competitive carriers that face significant challenges in obtaining the latest, most-advanced and feature-rich devices. AT&T and Verizon do not have such problems, and due to their significant market power, often acquire the newest devices first. Without an interoperability requirement for each mmW band, CCA’s members may be at a

---

<sup>31</sup> *Id.* ¶¶ 295-96.

<sup>32</sup> *Id.*

<sup>33</sup> In the event that the Commission combines the 37 and 39 GHz bands, then interoperability should be mandated across the combined band.

significant competitive disadvantage if they are unable to acquire the newest, compatible device for 5G services.

Notably, Verizon and CTIA do not support an interoperability mandate.<sup>34</sup> CCA has dedicated significant efforts to advocate for interoperability rights for its members in several Commission proceedings, including, most notably the 700 MHz interoperability proceeding. These efforts have demonstrated that interoperability is a preferred approach to ensure that competitive carriers have an even playing field when it comes to competing against Verizon and AT&T. While the industry does not yet know how and when the mmW bands will develop, an interoperability mandate must be incorporated into the regulations for mmW mobile services early on.

*E. The mmW Spectrum Bands Should Be Included in The Spectrum Screen On a Per-Band Basis Once Deemed Suitable and Available*

The Commission proposes not to include the licensed mmW bands in the spectrum screen at this time because it is not clear that the bands will become “suitable” and “available” spectrum for the provision of mobile telephony and mobile broadband services in the near term.<sup>35</sup> CCA agrees that it would be premature for such spectrum to be included in the screen now – but that when the time comes, the Commission must incorporate protections to ensure that the spectrum is not dominated by AT&T and Verizon – as the below-1-GHz bands currently are today.

---

<sup>34</sup> See, e.g., Verizon Comments at 17; CTIA Comments at 30-31 (CTIA seeks additional clarification on the Commission’s proposal and offers concerns that such requirements would negatively impact 5G deployment).

<sup>35</sup> NPRM ¶ 192.

Upon a determination that this spectrum is suitable and available in the near term,<sup>36</sup> the Commission should consider how to add these bands to the spectrum screen on a per-band basis. Specifically, as more spectrum is added into the toolkit for mobile deployments, the Commission should consider revising its spectrum screen to include, perhaps, a separate screen for individual bands. It is important for the industry, and the Commission, to be mindful of the amount of low- and mid- frequency spectrum that the dominant providers possess, which will better enable the Commission to evaluate and prevent anti-competitive actions. It is no secret that AT&T and Verizon’s resources will allow them to out-bid most competitive carriers in an auction. In addition, these carriers may have the incentive to take anti-competitive actions and bid on spectrum for the sole reason of foreclosing their competition – competitive carriers – from accessing this critical input. The Commission must prevent the largest carriers, who are positioned to be among the first to develop and deploy the technologies and services for these higher frequency bands, from aggregating this spectrum to the detriment of competition and consumers.<sup>37</sup>

*F. The FCC Should Allocate as Much Spectrum as is Currently Ready for Auction to Spur Network Deployment and Spectrum Use*

---

<sup>36</sup> The Commission has a long history and a multitude of precedent advising when spectrum should be considered “suitable” and “available” for mobile use. *See, e.g.*, Application of AT&T Inc. and Qualcomm Incorporated, *Order*, 26 FCC Rcd 17589, 17605-06 ¶ 38 (2011); Application of AT&T Inc. and Centennial Communications Corp., WT Docket No. 08-246, *Mem. Op. and Order*, 24 FCC Rcd 13915, 13935 ¶ 43 (2009). *See also* Applications of Cellco Partnership d/b/a Verizon Wireless and SpectrumCo LLC and Cox TMI, WT Docket No. 12-4, *Mem. Op. and Order*, 27 FCC Rcd 10698, 10719 ¶ 59.

<sup>37</sup> A review of granted STA licenses in the Office of Engineering and Technology’s (OET) database shows those with the largest share of the market are already committing vast resources to prepare for 5G deployment in these mmW bands, as well as other bands that might be used for 5G. *See, e.g.*, Qualcomm Technologies, Inc., call signs WH2XDM, WH2XOW, and WI9XVE; *see also, e.g.*, AT&T, call signs WI2XFM (*pending grant*).



The Commission proposes allocation of a variety of spectrum bands in this proceeding. CCA encourages the Commission to commence preparations to auction spectrum as soon as it is ready for auction and deployment. To facilitate deployment to 5G and foster a competitive environment with full participation by rural, regional and nationwide carriers, the Commission should create a framework for expeditious auction.

#### **IV. THE “SPECTRUM CRUNCH” AND CONSOLIDATING MOBILE LANDSCAPE HAS INCREASED THE NEED FOR ADDITIONAL SPECTRUM TO BE MADE AVAILABLE FOR MOBILE BROADBAND USE**

While CCA appreciates steps the Commission has taken thus far towards unleashing additional spectrum for commercial mobile wireless use, there remains a dire need for more mobile broadband spectrum. In recent years, the wireless industry has been rapidly consolidating, and smaller, regional, and mid-tier carriers are finding it increasingly difficult to acquire the necessary tools to compete against Verizon and AT&T. Wireless carriers currently find themselves in the midst of a well-documented “spectrum crunch,” which will only continue as carriers move toward 5G, and as Americans continue to demand faster mobile broadband services. Accordingly, the Commission should adopt rules that will allow for more active participation of small, rural, and regional carriers in deploying 5G technologies.

Ericsson estimates a ten-fold increase in mobile data traffic by the end of 2021, anticipating that 90% of mobile data traffic will be from smartphones.<sup>38</sup> Carriers are struggling already to obtain spectrum to meet existing needs; such an exponential increase will certainly require additional amounts of spectrum for carriers to deploy. Meanwhile, as CCA discussed and the FCC confirmed in the *Eighteenth Mobile Competition Report* proceeding, fewer

---

<sup>38</sup> See Ericsson, Mobility Report: On the Pulse of the Networked Society (Nov. 2015), available at <http://www.ericsson.com/res/docs/2015/mobility-report/ericsson-mobility-report-nov-2015.pdf>.

competitive carriers are participating in the telecommunications industry; often, a spectrum transfer represents a competitive carrier leaving the telecommunications marketplace.<sup>39</sup> When it set out the rules for “enhanced factor” review in the 2014 *Mobile Spectrum Holdings Report and Order*, the FCC itself acknowledged that spectrum transfers often “involve the disappearance of a separate business enterprise as an ongoing potential competitive constraint and source of innovations in services and marketing.”<sup>40</sup> In less than a year, the FCC approved transactions that allowed AT&T to purchase all of Allied Wireless assets<sup>41</sup> and Cricket Wireless,<sup>42</sup> and Verizon to acquire Cincinnati Bell’s wireless business,<sup>43</sup> thus eliminating three competitive carriers from the marketplace. AT&T also has entered into dozens of “smaller” transactions over the past fourteen months, involving hundreds of licenses, many of which have enabled AT&T to acquire even more low-band spectrum, while often exceeding 45 MHz, despite the “enhanced factor” analysis

---

<sup>39</sup> See Comments of Competitive Carriers Association, GN Docket No. 15-191 (filed Sept. 15, 2014); Reply Comments of Competitive Carriers Association, GN Docket No. 15-191 (filed Sept. 30, 2014).

<sup>40</sup> See Policies Regarding Mobile Spectrum Holdings; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, WT Docket No. 12-269, GN Docket No. 12-268, *Report and Order*, 29 FCC 6133, ¶ 280 (rel. June 2, 2014) (“*Mobile Spectrum Holdings Report and Order*”).

<sup>41</sup> Applications of AT&T Inc. and Atlantic Tele-Network, Inc., WT Docket No. 13-54, *Mem. Op. and Order*, 28 FCC Rcd 13670 (rel. Sept. 20, 2013).

<sup>42</sup> Applications of Cricket License Company, LLC, *et al.*, Leap Wireless International, Inc., and AT&T Inc. for Consent To Transfer Control of Authorizations, WT Docket No. 13-193, *Mem. Op. and Order*, 29 FCC Rcd 2735 (rel. Mar. 13, 2014).

<sup>43</sup> See, e.g., Cellco Partnership d/b/a Verizon Wireless, Cincinnati Bell Wireless LLC, Grain Spectrum III, LLC, and Grain Spectrum IV, LLC *et al.* WT Docket No. 14-79, *Public Notice*, 29 FCC Rcd 5368 (rel. May 21, 2014). This transaction was approved on August 18, 2014. See Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, *et al.*, *Public Notice*, Report No. 9835 (rel. Aug. 20, 2014).

established in the *Mobile Spectrum Holdings Order*.<sup>44</sup> Indeed, the Commission last year granted several AT&T transactions using the “enhanced factor” standard of review, which applies in instances where the acquiring entity would hold approximately one-third or more of the suitable and available spectrum below 1 GHz,<sup>45</sup> and where the entity acquiring below-1-GHz spectrum already holds more than one-third of the below-1-GHz spectrum in a particular market.<sup>46</sup> The Commission has yet to deny either of these types of transactions.

---

<sup>44</sup> See, e.g., Application of AT&T Mobility Spectrum LLC and East Kentucky Network, LLC, WT Docket No. 15-79, *Mem. Op. and Order*, DA 16-106 (rel. Jan. 29, 2016); Application of New Cingular Wireless PCS, LLC, Bluegrass Cellular, Inc. and Bluegrass Wireless LLC, WT Docket No. 15-225, *Mem. Op. and Order*, DA 16-109 (rel. Jan. 29, 2016); Application of AT&T Inc. and Cellular Properties, Inc., WT Docket No. 15-78, *Mem. Op. and Order*, DA 16-93 (rel. Jan. 28, 2016); Application of AT&T Mobility Spectrum LLC and Agri-Valley Communications, Inc., WT Docket No. 15-181, *Mem. Op. and Order*, DA 15-1503 (rel. Dec. 30, 2015); Application of New Cingular Wireless PCS, LLC and NEP Cellcorp, Inc. WT Docket No. 15-221, *Mem. Op. and Order*, DA 15-1504 (rel. Dec. 30, 2015); Application of AT&T Mobility Puerto Rico Inc. and Worldcall Inc., WT Docket No. 14-206, *Mem. Op. and Order*, 30 FCC Rcd 9763 (rel. Aug. 31, 2015); Application of AT&T Inc., Plateau Telecommunications, Inc., et al., WT Docket No. 14-144, *Mem. Op. and Order*, 30 FCC Rcd 5107 (rel. May 8, 2015); Application of AT&T Inc. and Pine Cellular Phones, Inc., WT Docket No. 15-13, CC Docket No. 99-200, *Public Notice*, 30 FCC Rcd 2903 (rel. Apr. 2, 2015); Application of AT&T Mobility Spectrum LLC and Consolidated Telephone Company, WT Docket No. 14-254, CC Docket No. 99-200, *Public Notice*, 29 FCC Rcd 14847 (rel. Dec. 11, 2014); AT&T Inc. and Kanokla Telephone Association, WT Docket No. 14-199, *Public Notice*, 29 FCC Rcd 14481 (rel. Dec. 2, 2014); AT&T Mobility Spectrum LLC and Club 42CM Limited Partnership, WT Docket No. 14-145, *Public Notice*, 29 FCC Rcd 10525 (rel. Sept. 8, 2014) (“*AT&T/Club42 Public Notice*”); see also *See Policies Regarding Mobile Spectrum Holdings; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auction*, WT Docket No. 12-269, GN Docket No. 12-268, *Report and Order*, 29 FCC Rcd 6133, ¶¶ 283-89 (2014) (“*Mobile Spectrum Holdings R&O*”).

<sup>45</sup> See *AT&T/Club42 Public Notice*; see also Application of AT&T Inc. and Plateau Wireless et al., *Public Notice*, 29 FCC Rcd 10521 (rel. Sept. 8, 2014).

<sup>46</sup> See *AT&T/Club42 Public Notice*; see also *Mobile Spectrum Holdings Report and Order*, 29 FCC Rcd at 6240 ¶ 287.

AT&T and Verizon now account for over 70 percent of industry revenue and growing.<sup>47</sup> When measured on a licensed MHz-POP basis, the two largest carriers control a combined 73 percent of all low-band spectrum,<sup>48</sup> and almost 70% of all mobile connections.

This consolidation is not merely speculative. In the *Eighteenth Mobile Competition Report*, the Commission affirmed this observation and concluded that the steady increase in the Herfindahl-Hirschman Index (“HHI”) from 3,027 in 2013 to 3,138 in 2014 was a reflection of continued industry consolidation.<sup>49</sup> Even with the spectrum reserve adopted for the incentive auction, CCA has concerns that consolidation may worsen further, by giving the nation’s two dominant carriers opportunities to raise the cost of low-band spectrum for competitive carriers.<sup>50</sup>

Due to this extensive market consolidation, the Commission must monitor the power gap created by AT&T and Verizon by ensuring that competitive carriers are able to gain access to critical spectrum resources for next generation technology, such as in the above-24-GHz bands. Rural, mid-size, and regional carriers deliver vital public interest benefits to consumers who are not well served by the largest carriers.<sup>51</sup> When these carriers are constrained by the lack of

---

<sup>47</sup> In re Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, WT Docket No. 15-125, *Eighteenth Mobile Competition Report*, DA 15-1487, ¶ 21 (rel. Dec. 23, 2015) (“*Eighteenth Mobile Competition Report*”).

<sup>48</sup> Comments of CCA, WT Docket No. 15-105, at 6-7 (June 11, 2015). When measured on a licensed MHz-POP basis, AT&T holds approximately 38 percent of below-1-GHz spectrum, while Verizon Wireless holds approximately 35 percent. *Eighteenth Mobile Competition Report* ¶ 62.

<sup>49</sup> *Eighteenth Mobile Competition Report* ¶ 24.

<sup>50</sup> See Comments of Competitive Carriers Association, Docket No. 15-125 at 8 (July 14, 2015).

<sup>51</sup> See Comments of Competitive Carriers Association, Docket No. 12-268 at 3 (Jan. 25, 2013).

available spectrum, their scarce resources may be quickly consumed through commercially unreasonable roaming practices, stunting their growth. When this occurs, competitive carriers become likely for acquisition targets. Consolidation of the wireless industry means less choices for consumers and less incentive to innovate. Therefore, it is critical that the Commission take the opportunity in this proceeding to mitigate the anti-competitive effects of industry consolidation—and the lack of protection offered by “enhanced factor” review—by ensuring that any new available and suitable spectrum is accessible by competitive carriers.

## **V. CONCLUSION**

For the foregoing reasons, CCA respectfully requests that the Commission consider its comments and adopt flexible and prospective licensing and procedural rules for mobile services in bands above 24 GHz. Doing so will ensure that carriers of all sizes have competitive opportunities to acquire and utilize the spectrum above 24 GHz for mobile use.

Respectfully submitted,

/s/ Rebecca Murphy Thompson  
Steven K. Berry  
Rebecca Murphy Thompson  
EVP & General Counsel  
COMPETITIVE CARRIERS ASSOCIATION  
805 15<sup>th</sup> Street NW, Suite 401  
Washington, DC 20005

February 26, 2016